



Department of Pesticide Regulation



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MEMORANDUM

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Original signed by

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SUBJECT: COMMENTS ON PROPOSED AMENDMENTS TO THE WATER QUALITY
CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN
RIVER BASINS

Thank you for the opportunity to comment on the April 2006 draft of "Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta." The Department of Pesticide Regulation (DPR) found the report to be well written and well documented and we generally support the provisions proposed in the amendments. Our comments are presented below.

Comment 1: The staff report may incorrectly characterize the Basin Plan's direction when 96-hour LC50 data are available, but numeric water quality objectives or criteria are not.

The first full paragraph on page 48 of the staff report states that the Basin Plan states that the Regional Board will use one tenth of the 96-hour LC50 or the most sensitive organism to interpret the narrative water quality objectives when numeric objectives or criteria are not available. In fact, the Basin Plan states that "... the Regional Board will use the best available technical information to evaluate compliance with the narrative objectives. Where valid testing has developed 96 hour LC50 values for aquatic organisms . . . , the Board will consider one tenth of this value for the most sensitive species tested as the upper limit . . . for the protection of aquatic life." We believe that the term "will consider" was purposefully amended into the Basin Plan rather than "will use" to preserve flexibility. To support this opinion, we recall when the Regional Board amended its Basin Plan to include guidance for determining compliance with narrative objectives (Resolution No. 90-028). At that time, Regional Board staff included in their draft functional equivalent document an excerpt from a U.S. Environmental Protection Agency technical support document that stated: "The acute-chronic ratio (ACR) expresses the relationship between the concentration of an effluent or a toxicant causing acute toxicity to a species and the concentration of an effluent or toxicant causing chronic toxicity to that same species. It has commonly been used to extrapolate to a "chronic toxicity" concentration using an available acute toxicity data point. . . . When dealing with effluent toxicity, EPA recommends



Danny McClure
June 7, 2006
Page 2

regulatory agencies use 10 as an ACR (acute-chronic ratio). This value can be used both to extrapolate to chronic concentrations from acute toxicity data and to set permit limits limiting chronic toxicity where chronic toxicity is not directly measured. Of course, where acute and chronic toxicity data are available, the ACR can be directly calculated for that specific effluent.”

Clearly, when the Regional Board amended this provision into its Basin Plan, it was their intent to use an ACR of 10 only in the absence of other reliable data. In the case of diazinon and chlorpyrifos, reasonable ACRs have been developed, based on reliable acute and chronic toxicity data (Siepmann and Finlayson, 2000). Rather than 10, diazinon and chlorpyrifos ACRs for *Ceriodaphnia dubia* are 1.7 and 0.95, respectively. Thus, this is a case when defaulting to an ACR value of 10 is inappropriate.

We recommend that when water quality criteria are not available, the Regional Board “consider” all reasonable information when evaluating values that indicate compliance with narrative objectives, not only one tenth of the lowest LC50 value.

Comment 2: The issues discussed in section 5.1.1. seem inconsistent as they relate to diazinon and chlorpyrifos.

In section 5.1.1. No Change in Water Quality Objectives, the report describes approaches the Regional Board could use to interpret the narrative water quality objective for toxicity as it relates to diazinon and chlorpyrifos. These approaches would yield numeric measures for compliance in the absence of adopted numeric water quality objectives. For diazinon, the report suggests using one tenth of the lowest LC50 value. For chlorpyrifos, in contrast, the report recommends using the Regional Board’s recalculation of the California Department of Fish and Game’s chlorpyrifos criteria. We recommend that the report consistently apply one (or both) of the two approaches, or explain why different approaches are appropriate. Note that subsequent tables (e.g., Tables 5.3 and 5.6) include “No Change” numeric measures and may need revision depending on how the Regional Board responds to this comment.

Thank you for your consideration of our comments. We appreciate the opportunities you afforded DPR to consult during the development of the staff report and implementation plan. We look forward to continuing our cooperative relationship as we proceed into the implementation phase of this effort. If you have any questions on our comments, please feel free to contact Marshall Lee, of my staff, at (916) 324-4269 or <mlee@cdpr.ca.gov.

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